

NABL ACCREDITED AS PER ISO/IEC 17025:2005

Job No.: CECTC/BBMP/KRIDL/W.No.14/GSB-1/AL/2017-18

Date : 23.05.2017

ATTERBERG LIMITS TEST FOR GSB (COARSE GRADED)

IS : 2720 (Part - 5)

Client : Executive Engineer, Dasarahalli Division, BBMP, Bangalore.

Agency : Technical Manager (West), KRIDL, BBMP, Bangalore.

Name of work : Improvements to 'A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14, BBMP, Bangalore.

Date of Testing : 23.05.2017

As per MORTH Table : 400-01

Sl. No.	Particulars	Test Results	Standards as per Specifications
1	Liquid Limit, %	20.45	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

(Signature)
ವಿಜಯ ಕರ್ನಾಟಕ ಸಾರ್ವಜನಿಕ
ಪ್ರಯೋಗಶಾಲೆ, ಬೆಂಗಳೂರು
ಪರೀಕ್ಷಾ ಸಂಖ್ಯೆ: 18/2017
ದಿನಾಂಕ: 23.05.2017

For Civil Experts Consultants

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Authorised Signatory

NABL ACCREDITED AS PER ISO/IEC 17025:2005

Job No.:

CECTC/BBMP/KRIDL/W.No.14/WMM/GR/2017-18

Date : 29.05.2017

**GRADATION FOR WMM
MORTH TABLE-400-11**

Client : **Executive Engineer**, Dasarahalli Division, BBMP, Bangalore.
Agency : **Technical Manager (West)**, KRIDL, BBMP, Bangalore.
Name of Work : Improvements to 'A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14, BBMP, Bangalore.
Date of Testing : 29.05.2017
Material : Wet Mix Macadam
Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **12575**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	440	440	3.5	96.5	95-100
22.4	4350	4790	38.1	61.9	60-80
11.2	2480	7270	57.8	42.2	40-60
4.75	1670	8940	71.1	28.9	25-40
2.36	1385	10325	82.1	17.9	15-30
0.600	1160	11485	91.3	8.7	8-22
0.075	780	12265	97.5	2.5	0-8

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ಶ್ರೀಮತಿ ಸಿದ್ದಿಗೌಡ್
ಮಂತ್ರಿಮಂಡಲ, ಬೆಂಗಳೂರು

For Civil Experts Consultants

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Authorised Signatory

Job No.: CECTC/BBMP/KRIDL/W.No.14/BM/Shape/2017-18

Date: 05.06.2017

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.	
Agency	Technical Manager(West), KRIDL, BBMP, Bangalore.	
Name of Work	Improvements to 'A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14, BBMP, Bangalore.	
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)	
Type of Mix	Bituminous Macadam	
Date of Testing	05.06.2017	

Passing through IS Sieve, mm	Retained On IS Sieve, mm	Weight of Sieved Fraction (W) gms	Proportion of Size range in the sample, $X = 100 \times W / \Sigma W$	Weight of pieces of aggregates of the range, (P) in gms	Thickness gauge size, mm	Weight of flaky particles (F) in gms	Percentage by Weight of flaky aggregates in gms $Y = 100 \times F / P$	Weighted Percentage of flaky aggregates in gms $XY = X \times Y$	Weight of fraction consisting of at least 200 Pieces in gms	Length gauge size in mm	Weight of aggregates in each fraction retained on Length gauge in gms
63.00	50.00	W1	X1	P1	33.90	F1			P1	-	E1
50.00	40.00	W2	X2	P2	27.00	F2			P2	81.00	E2
40.00	31.50	W3	X3	P3	21.50	F3			P3	58.00	E3
31.50	25.00	W4	X4	P4	16.95	F4	8.8	291.76	P4	-	E4
25.00	20.00	W5	X5	P5	13.50	F5	11.78	290.82	P5	40.50	E5
20.00	16.00	W6	X6	P6	15.57	F6	12.47	194.11	P6	32.40	E6
16.00	12.50	W7	X7	P7	13.78	F7	15.00	206.76	P7	25.50	E7
12.50	10.00	W8	X8	P8	9.34	F8	26.19	244.66	P8	20.20	E8
10.00	6.30	W9	X9	P9	3.49	F9	28.70	100.18	P9	14.70	E9
		ΣW 10084.0						ΣXY 1328.29	ΣP 6403.0		

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Job No: CECTC/BBMP/KRIDL/W.No.14/BC/Bit/2017-18

08.06.2017

BITUMEN DETERMINATION OF BITUMINOUS CONCRETE MIX

As per IRC : SP : 11 - 1984

CLIENT	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, BBMP, Bangalore.
NAME OF THE WORK	Improvements to 'A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14, BBMP, Bangalore.
SAMPLE I/D	A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14
DATE OF TESTING	08.06.2017

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	469.5	468.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	30.5	31.50
7. Bitumen content in %	6.10	6.30
8. Average	6.20	

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- ▢ The results indicated above are based on the tests carried out on the samples at site
- ▢ Any Query regarding the report must be reported within 15 days from the date of testing

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ಪ್ರಾಧಿಕಾರಿತ ಸಹ-ಪರಿಶೀಲಕರು
08.06.2017

For Civil Experts Consultants

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Job No.: CECTC/BBMP/KRIDL/W.No.14/BC/Sta/2017-18

08.06.2017

TEST REPORT ON STABILITY OF MIX

Client	:	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.
Agency	:	Technical Manager (West), KRIDL, BBMP, Bangalore.
Name of the Work	:	Improvements to 'A' main & 'B' main roads of Meenakshi layout, 1st 'A' cross to 11th 'A' cross roads of Soundarya layout in Bagalagunte in Ward No.14, BBMP, Bangalore.
Source of location	:	Hot mix Plant, Bangalore
Type of Mix	:	Bituminous Concrete
Date of Testing	:	08.06.2017

The results of the tests conducted on the Bituminous Concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-19)
1	Marshal Stability, Kn	10.15	10.30	9 Kn (min)
2	Marshal flow, mm	2.65	3.10	2 – 4
3	Percent air voids in Mineral Aggregate	13.35	14.20	13 – 15
4	Voids in Compacted Mix	4.35	4.70	3 – 6
5	Percent Voids filled with Bitumen	71.23	72.45	65 - 75
6	Density, g/cc	2.25	2.26	--

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ಪ್ರಾಂತ್ಯೀಕರಣ, ರಸ್ತೆ-ಇಂಜಿನಿಯರಿಂಗ್
ಮಾಹಿತಿ, ಮಂಡಳಿ
ಬೆಂಗಳೂರು

For Civil Experts Consultants

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